

SECTION III—REMARKS

This amendment is submitted in response to the Office Action mailed July 26, 2005. Claims 5, 19 and 20 are amended, and claim 16 is cancelled. Claims 1-15 and 17-30 remain pending in the application. Applicants respectfully request reconsideration of the application and allowance of all pending claims in view of the above amendments and the following remarks.

Allowable Claims

The Examiner objected to claims 5, 10, 11 and 28 for being dependent on rejected base claims, but indicated that these claims would be allowable if re-written in independent form to include the limitations of their base claims and any intervening claims. As explained below, Applicants believe that the base claims from which claims 5, 10, 11 and 28 depend are patentable. Applicants therefore respectfully decline to amend these claims to independent form at this time.

Claim Objections

The Examiner objected to claims 5, 19 and 20 because of several informalities.

In claim 5, the Examiner pointed out that the phrase “comprises a thermally conduction non-electrically conductive coating” is incorrect. As suggested by the Examiner, Applicants have amended the phrase to read “comprises a thermally conductive non-electrically conductive coating.” Applicants respectfully submit that this amendment overcomes the Examiner’s objection.

In claim 19, at line 6, the Examiner indicated that the word “circuits” is incorrect. As suggested by the Examiner, Applicants replaced the word “circuits” (plural) with the word “circuit” (singular). Applicants respectfully submit that this amendment overcomes the Examiner’s objection.

In claim 20, at line 2, the Examiner indicated that the phrase “sides slidingly respectively engaging slots” is incorrect. Applicants have amended the claim to clarify this language. Applicants respectfully submit that this amendment overcomes the Examiner’s objection.

Rejections Under 35 U.S.C. § 112

The Examiner rejected claim 16 under 35 U.S.C. § 112, second paragraph, as indefinite for failing to particularly point out and claim the subject matter that the Applicants regard as the invention. Applicants have canceled claim 16, and respectfully submit that this cancellation renders moot the Examiner’s rejection.

Rejections Under 35 U.S.C. § 103

The Examiner rejected claims 1-4, 6-9, 12-27 and 29-30 under 35 U.S.C § 103(a) as obvious in view of, and therefore unpatentable over, various combinations of the following references: U.S. Patent No. 6,160,707 to Yin (“Yin”), U.S. Patent No. 6,304,437 to Foo *et al.* (“Foo”), U.S. Patent No. 6,137,790 to Boaz *et al.* (“Boaz”) and U.S. Patent No. 6,520,805 to Hassanzadeh *et al.* (“Hassanzadeh”).

Applicants respectfully traverse the Examiner’s rejections. To establish a *prima facie* case of obviousness, three criteria must be met: (1) the prior art references must teach or suggest all the claim limitations; (2) some suggestion or motivation to combine the references must be found in the prior art; and (3) there must be a reasonable expectation of success. MPEP § 2143. As explained below, Applicants respectfully submit that the Examiner has not established a *prima facie* case of obviousness.

Claim 1 was rejected as obvious in view of, and therefore unpatentable over, Yin in view of Foo. Claim 1 recites an apparatus combination including a printed circuit board (PCB) having at least one set of integrated circuit (IC) pads, “each set of IC pads to electrically couple one of

an IC or a socket configured to receive an IC to the PCB,” a set of power supply pads to electrically couple one of a power module, power supply circuitry, or connector configured to receive a power module to the PCB, and “first and second power rails, each mounted to the PCB and electrically coupled to a portion of the power supply pads and a portion of said at least one set of IC pads, wherein the first and second power rails are respectively disposed on opposite sides of said at least one set of IC pads and each power rail has a slotted profile including at least one slot configured to receive a flange on a heatsink.”

The Examiner alleges that Yin discloses every limitation of this claim, except for a set of power supply pads to electrically couple one of a power module, power supply circuitry, or connector configured to receive a power module to the PCB, wherein each power rail is connected to the power supply. The Examiner, however, alleges that these elements missing from Yin are disclosed in Foo and concludes that it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the disclosures of Yin and Foo to arrive at the claimed invention.

Applicants respectfully disagree. First, as discussed in Yin, the socket 12E is not configured to receive an integrated circuit (IC), but rather to receive one printed circuit board (PCB) 10C and connect it to the motherboard 10M. The socket 12E itself is not an integrated circuit, and therefore cannot be connected to the motherboard 10M by at least one set of “IC pads.” Similarly, because the socket 12E is not used to connect an IC to the motherboard 10M it is not a socket designed to receive an IC and therefore cannot be connected to the motherboard 10M by pads that electrically couple “a socket configured to receive an IC” to the PCB.

Second, Yin does not disclose, teach or suggest that the retaining posts 12L or 12R do or should supply any power to the PCB 10C, nor that these retaining posts are coupled in any way

to an electrical power source. Yin instead teaches that the retaining posts 12L and 12R are for the sole purpose of holding the PCB assembly and that power is supplied to the PCB 10C exclusively through the socket 12E. Retaining posts 12L and 12R therefore cannot, as the Examiner alleges, be considered to be “first and second power rails, each mounted to the PCB and electrically coupled to a portion of the power supply pads and a portion of said at least one set of IC pads.” Moreover, retaining posts 12L and 12R do not receive a flange on a heatsink, but instead are designed to receive the edges of a plate to which a heatsink is attached. Retaining posts 12L and 12R therefore cannot be considered power rails wherein each power rail has a slotted profile including “at least one slot configured to receive a flange on a heatsink.” Because Yin does not disclose these features, Yin and Foo taken together do not disclose every element and limitation of the claim and therefore cannot obviate the claim. Applicants therefore respectfully request withdrawal of the rejection and allowance of the claim.

Regarding claims 2-4, 6-9 and 12-18, if an independent claim is non-obvious under 35 U.S.C. § 103, then any claim depending therefrom is also non-obvious. MPEP § 2143.03; *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988). As discussed above, claim 1 is in condition for allowance. Applicants respectfully submit that claims 2-4, 6-9 and 12-18 are therefore allowable by virtue of their dependence on an allowable independent claim, as well as by virtue of the features recited therein. Applicants therefore respectfully request withdrawal of the rejections and allowance of these claims.

Claim 19 was rejected as obvious in view of, and therefore unpatentable over, Yin in view of Foo. Claim 19 recites an apparatus combination including a printed circuit board (PCB) having a power supply means and a first integrated circuit (IC), “first and second power rails, respectively disposed on opposite sides of the first integrated circuit, each power rail having a

slotted profile including at least one slot configured to receive a flange on a heatsink,” “means for electrically coupling power outputs from the power supply means to each of the first and second power rails” and “means for electrically coupling each of the first and second power rails to the first IC” and “means for coupling the first and second power rails to the PCB.” By analogy to the discussion above for claim 1, Applicants submit that Yin and Foo cannot render the claim obvious because, even when combined, they do not disclose every element and limitation of the claim. Applicants therefore respectfully request withdrawal of the rejection and allowance of the claim.

Regarding claims 20-24, if an independent claim is non-obvious under 35 U.S.C. § 103, then any claim depending therefrom is also non-obvious. MPEP § 2143.03; *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988). As discussed above, claim 19 is in condition for allowance. Applicants respectfully submit that claims 20-24 are therefore allowable by virtue of their dependence on an allowable independent claim, as well as by virtue of the features recited therein. Applicants therefore respectfully request withdrawal of the rejections and allowance of these claims.

Claim 25 was rejected as obvious in view of, and therefore unpatentable over, Yin in view of Foo. Claim 25 recites a method combination including ‘routing power to a first integrated circuit (IC) on a printed circuit board (PCB) via first and second power rails coupled to the PCB and disposed on opposite sides of the first IC,’ and thermally coupling a first heatsink to the first IC by “slidingly engaging flanges on opposing sides of the first heatsink with respective slots defined in the first and second power rails.” By analogy to the discussion above for claim 1, Applicants submit that Yin and Foo cannot render the claim obvious because, even when combined, they do not disclose every element and limitation of the claim. Applicants therefore respectfully request withdrawal of the rejection and allowance of the claim.

Regarding claims 26, 27, 29 and 30, if an independent claim is non-obvious under 35 U.S.C. § 103, then any claim depending therefrom is also non-obvious. MPEP § 2143.03; *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988). As discussed above, claim 25 is in condition for allowance. Applicants respectfully submit that claims 26, 27, 29 and 30 are therefore allowable by virtue of their dependence on an allowable independent claim, as well as by virtue of the features recited therein. Applicants therefore respectfully request withdrawal of the rejections and allowance of these claims.

Conclusion

Given the above amendments and accompanying remarks, all claims pending in the application are in condition for allowance. If the undersigned attorney has overlooked a teaching in any of the cited references that is relevant to allowance of the claims, the Examiner is requested to specifically point out where such teaching may be found. Further, if there are any informalities or questions that can be addressed via telephone, the Examiner is encouraged to contact the undersigned attorney at (206) 292-8600.

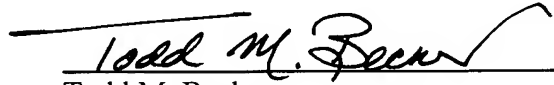
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Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP

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Todd M. Becker
Attorney for Applicant(s)
Registration No. 43,487

Blakely, Sokoloff, Taylor & Zafman LLP
12400 Wilshire Boulevard, Seventh Floor
Los Angeles CA 90025-1030
Phone: 206-292-8600
Facsimile: 206-292-8606

Enclosures: Postcard
Amendment transmittal, in duplicate